Water Quality Concerns

Sensitive Populations — Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons (such as people with HIV/AIDS, people who are undergoing chemotherapy and people who have undergone organ transplants), infants, and some elderly people can be particularly at risk for serious health impacts from infections. These people should seek advice about drinking water from their health care providers.

Lead & Copper — Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels may be higher in some homes in the community as a result of materials used in house plumbing. None of the samples Fairfield tested in 2005 exceeded the Action Levels for lead or copper. The next round of testing is in 2008.

Cryptosporidium — is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Crytosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may spread through means other than drinking water.

Arsenic — The California Department of Health Services continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems. No arsenic has been detected in Fairfield's drinking water.

Security — The City of Fairfield has performed a comprehensive vulnerability assessment for the water system resources. If you should see any items of concern or notice anything suspicious, please contact the City of Fairfield at (707) 428-7594.

For more detailed information on water quality, visit our website: www.ci.fairfield.ca.us/water.htm

Free Home Water Audit Free Water Saving Devices

As part of efforts to extend water resources, Fairfield provides free watersaving devices to all the citizens in our community. In addition, the City can provide a qualified auditor to review the water use history of your home, check for leaks, and provide recommendations and information to help you save water.

Please visit the **City of Fairfield at 1000 Webster Street, 3rd floor, or call 428-7487, Monday - Friday, 8 a.m. - 5 p.m.**

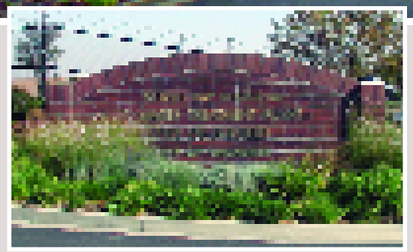
For More Information Call	
For questions regarding this report	(707) 428-7595
Billing Questions	(707) 428-7346
Water Repairs	(707) 428-7415
After Hours Water Emergencies	(707) 428-7300
EPA Safe Drinking Water Hotline	(800) 426-4791
Para información en Español	(707) 428-7680x107

Phototgraphy by Gayle Fraser.

Public input on drinking water issues is encouraged. You are welcome to attend a City Council meeting and have your voice heard. Council meetings are held the 1st & 3rd Tuesday of each month at 7 p.m. in the Fairfield City Council Chambers.

City of Fairfield

Water Quality Report 2005



Este folleto contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien. Para recibir información en Español comuníquese con Laura de Albidress al 707-428-7680 extensión 107.

Jointly owned by the Cities of Fairfield and Vacaville, the North Bay Regional Water Treatment Plant, with a rated production capacity of 40 million gallons per day, recently celebrated its 15th year in operation. Striving to continually provide high quality drinking water, this facility looks forward to ensuring a safe and adequate supply of water for many more years to come.

All of Fairfield's testing results for 2005 were within state and federal water standards.

Treated Water

DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD

Substance (reporting units)	MCL	PHG (MCLG)	Drinking Water Range	Drinking Water Average	Contaminant Sources
Aluminum (ppm)	1	0.6	ND-0.160	0.048	Erosion of natural deposits; residue from some surface water treatment processes.
Barium (ppm)	1	2	ND-0.237	0.088	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits.
Nickel (ppb)	100	12	11.5-17	6.70	Erosion of natural deposits, discharge from metal factories.
Nitrate-NO_3 (ppm)	45	45	ND-4.11	2.99	Runoff and leaching from fertilizer use, leaching from septic tanks and sewage; erosion of natural deposits.

DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD

Substance (reporting units)	MCL	PHG (MCLG)	Drinking Water Range	Drinking Water Average	Contaminant Sources
Aluminum (ppb)	200	NA	ND-160	48.0	Erosion of natural deposits; residue from some surface water treatment processes.
Chloride (ppm)	500	NA	8.5-20	13.4	Runoff/leaching from natural deposits; seawater influence.
Color (Units)	15	NA	ND-2	0.3	Naturally-occurring organic materials.
Odor (Units)	3	NA	1-2	1.5	Naturally-occurring organic materials.
Silver (ppb)	100	NA	ND-22.1	9.0	Industrial discharges
Sulfate (ppm)	500	NA	28.4-80.2	47.0	Runoff/leaching from natural deposits; industrial wastes.
Specific Conductance (micromhos)	1600	NA	325-455	365	Substances that form ions when in water; seawater influence.
Total Dissolved Solids (ppm)	1000	NA	211-308	238	Runoff/leaching from natural deposits.
Turbidity (Units)	5	NA	0.041-0.081	0.055	Soil runoff

SAMPLING RESULTS FOR SODIUM AND HARDNESS

Substance (reporting units)	MCL	PHG (MCLG)	Drinking Water Range	Drinking Water Average	Contaminant Sources
Hardness (ppm)	NA	NA	93-168	138	Generally found in ground and surface water.
Sodium (ppm)	NA	NA	16.9-42.5	29.5	Generally found in ground and surface water.

DETECTION OF UNREGULATED CONTAMINANTS

Substance (reporting units)	AL	PHG (MCLG)	Drinking Water Range	Drinking Water Average	Contaminant Sources
Boron (ppb)	1000	NA	ND-200	160	Unregulated contaminant monitoring helps EPA and the State determine where certain contaminants occur and whether the contaminants need to be regulated.
Vanadium (ppb)	50	NA	ND-5.5	3.1	Unregulated contaminant monitoring helps EPA and the State determine where certain contaminants occur and whether the contaminants need to be regulated.

Substance (reporting units)	MCL	PHG (MCLG)	Drinking Water Range	Drinking Water Average	Contaminant Sources
Cryptosporidium (organisms/L)	TT	NA	ND-0.3	0.05	Naturally present in the environment.

Distribution System Monitoring Results

DETECTION OF COLIFORM BACTERIA

Substance	MCL	MCLG	Distribution System	Contaminant Sources
Total Coliform Bacteria	5%	0	2.4% (Highest monthly value)	Naturally present in the environment
Fecal Coliform / E. coli	*	0	3 (Number of detections in 2005)	Human and animal fecal waste

* A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or E. coli.

The City of Fairfield collects 31 samples every week to monitor the bacteriological integrity of the distribution system. On 3 separate occasions during 2005, the bacterium E. coli was detected. As required, the assigned DHS district engineer was notified. In each instance, all follow-up samples were absent of the bacteria. Investigation into the cause/source of each event was indeterminate. The City continues its routine distribution monitoring program under the acknowledgement and support of Department of Health Services.

DISINFECTION BYPRODUCTS PRECURSORS, DISINFECTION BYPRODUCTS AND DISINFECTANT RESIDUALS

Substance	Compliance Ratio		Range	Average	Contaminant Sources
DBP Precursors	More than or equal to 1.0		1.86-3.03	2.25	Various natural and man-made sources.
Substance (reporting units)	**MCL**	**PHG (MCLG)**	**Range**	**Average**	**Contaminant Sources**
Trihalomethanes (ppb)	80	NA	13.2-65.8	34.6	By-product of drinking water chlorination.
Haloacetic Acids (ppb)	60	NA	3.7-18.0	8.9	By-product of drinking water chlorination.
Substance (reporting units)	**MRDL**	**MRDLG**	**Range**	**Average**	**Contaminant Sources**
Chlorine (ppm)	4	4	ND-1.24	0.46	Drinking water disinfectant added for treatment.

TURBIDITY AS A MEASURE OF FILTER PERFORMANCE

Substance (reporting units)	MCL	PHG (MCLG)	Entry Point to Distribution System	Contaminant Sources
Turbidity (Units)	TT = 1	NA	0.10 (Highest Level)	Soil runoff
Measure of the cloudiness of the water.	Percentage of samples 0.3		100%	

RESULTS OF DRINKING WATER FLUORIDATION

Substance (reporting units)	MCL Control Range	MCL Optimal Level	Range Detected	Average Detected	Contaminant Sources
Fluoride (ppm)	0.7- 1.3	0.8	0.09-1.03	0.84	Water additive that promotes strong teeth.

DETECTION OF LEAD AND COPPER IN CUSTOMER TAPS

Substance (reporting units)	AL	MCLG	No. of Samples (Collected in 2005)	90th Percentile Detected	No. Sites exceeding AL	Contaminant Sources
Lead (ppb)	15	2	50	ND	0	Plumbing corrosion; erosion of natural deposits.
Copper (ppm)	1.3	0.17	50	0.055	0	Plumbing corrosion; erosion of natural deposits.

Drinking Water

In order to ensure that tap water is safe to drink, US Environmental Protection Agency (EPA) and the State of California prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

The tables on the opposite page list the drinking water contaminants that were detected for the period of January 1 - December 31, 2005. The state allows reduced monitoring for some contaminants because the detected levels of these contaminants are very consistent from year to year. The presence of contaminants in the water does not necessarily indicate a health threat. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (1-800-426-4791). ■

Source Water

Drinking water sources (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As source water travels over the surface of the land or through the ground, it can dissolve substances and pick up contaminants.

Fairfield's source water originates from Lake Berryessa and the Sacramento Delta. Water is transported for treatment through the Putah South Canal and the North Bay Aqueduct.

Treatment of source water is divided between two conventional water treatment plants, the Waterman Treatment Plant and the North Bay Regional Water Treatment Plant, (NBR is jointly owned by the Cities of Fairfield and Vacaville).

Contaminants that may be present in source water before treatment include:

Microbial contaminants, such as viruses and bacteria, that may result from sewage discharge, septic systems, agricultural livestock operations and wildlife.

Inorganic contaminants, such as salts and metals, that can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.

Radioactive contaminants, can be naturally occurring or can be the result of oil and gas production and mining activities. ■

Vulnerability Assessment

Under State law, water utilities are required to check water supplies for possible contaminating activities which may put the source water at risk. This assessment does not mean that the water is necessarily affected by those activities at this time, but that the utility should be aware of these potential concerns and take necessary measures to protect the drinking water sources.

Lake Berryessa (completed September 2001): A Source Water Assessment has been completed and shows that the most significant potential sources of contamination are illegal activities/ unauthorized dumping, herbicide application, storm drain discharge points, and recreational use.

Sacramento Delta (completed December 2002): A Source Water Assessment has been completed and shows that the most significant potential sources of contamination are recreational use, urban & agricultural runoff, grazing animals, herbicide application, and seawater intrusion.

A copy of the assessments and associated vulnerability summaries can be obtained through the **California Department of Health Services, Drinking Water Field Operations Branch, San Francisco District Office, 850 Marina Bay Parkway, Building P 2nd floor, Richmond, CA 94804 or by contacting Ms. Betty Graham, Senior District Engineer, California Department of Health Services at (510) 620-3454.** ■

Abbreviations

AL - Action Level: The concentration of a contaminant which, if exceeded, triggers a treatment or other requirements that a water system must follow.

MCL - Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

MCLG - Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. Set by USEPA.

MRDL - Maximum Residual Disinfectant Level: The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap. (Set at 4.0 mg/L as Cl_2 for chlorine disinfection.)

MRDLG - Maximum Residual Disinfectant Level Goal: The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLs are set by USEPA.

NA - Not Applicable

ND - Not Detected

NTU - Nephelometric Turbidity Units: The standard unit for turbidity measurements.

pCi/L -Pico Curies per Liter: A measure of radioactivity.

PDWS - Primary Drinking Water Standard: MCLs and MRDLs for contaminants that affect health along with their monitoring, reporting, and treatment requirements.

PHG - Public Health Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by California EPA.

ppb - Parts per billion, or micrograms per liter (ug/L)

ppm - Parts per million, or milligrams per liter (mg/L)

TT - Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.